This paper founded 2,481 articles about testing Microservices architecture (MSA) based applications, of which 31 were finally selected as primary studies. Key findings state that (i) 5 research themes (Architecture, DevOps and Continuous Integration, Automated testing, Performance, and Model-based testing) characterize testing approaches in MSA-based applications; (ii) integration and unit testing are the most popular testing approaches; and (iii) inter-communication testing among microservices is gaining the interest of the community.

In general, the presentation is good, and the motivation of the research is clear. This paper made a systematic survey of the current research themes, testing methods and tools in the field of microservice testing.

The reviewer has the following concerns which should be further addressed:

1. In the third port of this paper, the authors just presented the research of others. Proper analysis and comparison can make this paper more valuable. On the other hand, in the third port of this paper, some conclusions (such as “figure 4 in Appendix of [11] highlight the challenges mentioned in the primary studies over the yeas” and Key finding of RQ3). The authors may try to analyze the reasons according to the natural characteristics of microservices.
2. The chapter of future research can reflect the value of the review paper. I would suggest adding a subsection to discuss possible future research directions.

Rejest